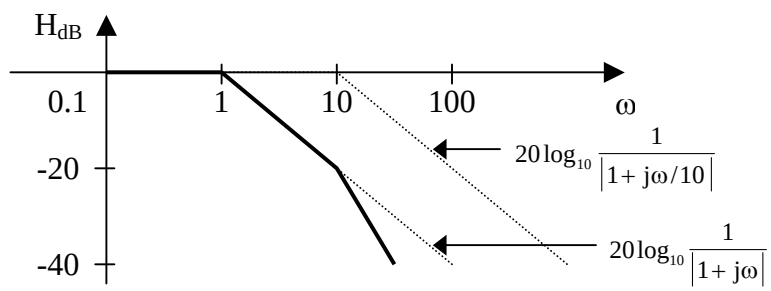
Chapter 14, Solution 9.

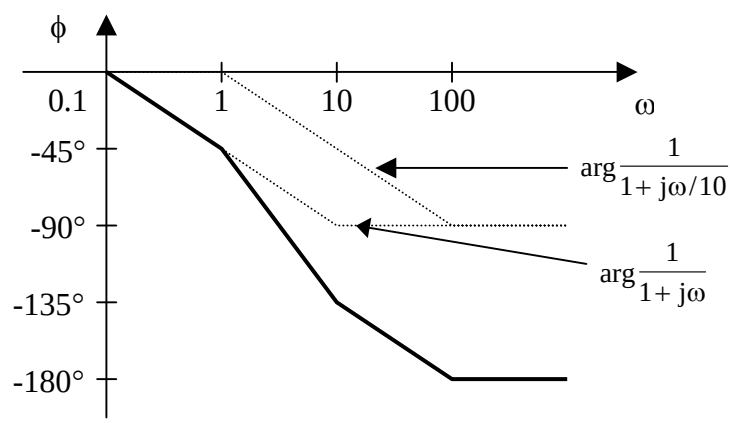
$$\mathbf{H}(\omega) = \frac{1}{(1+j\omega)(1+j\omega/10)}$$

$$H_{dB} = -20\log_{10}\left|1+j\omega\right| - 20\log_{10}\left|1+j\omega/10\right|$$

$$\phi = -\tan^{-1}(\omega) - \tan^{-1}(\omega/10)$$

<u>The magnitude and phase plots are shown below</u>.





Chapter 14, Solution 12.

$$T(w) = \frac{0.1(1+j\omega)}{j\omega(1+j\omega/10)}, \qquad 20\log 0.1 = -20$$

The plots are shown below.

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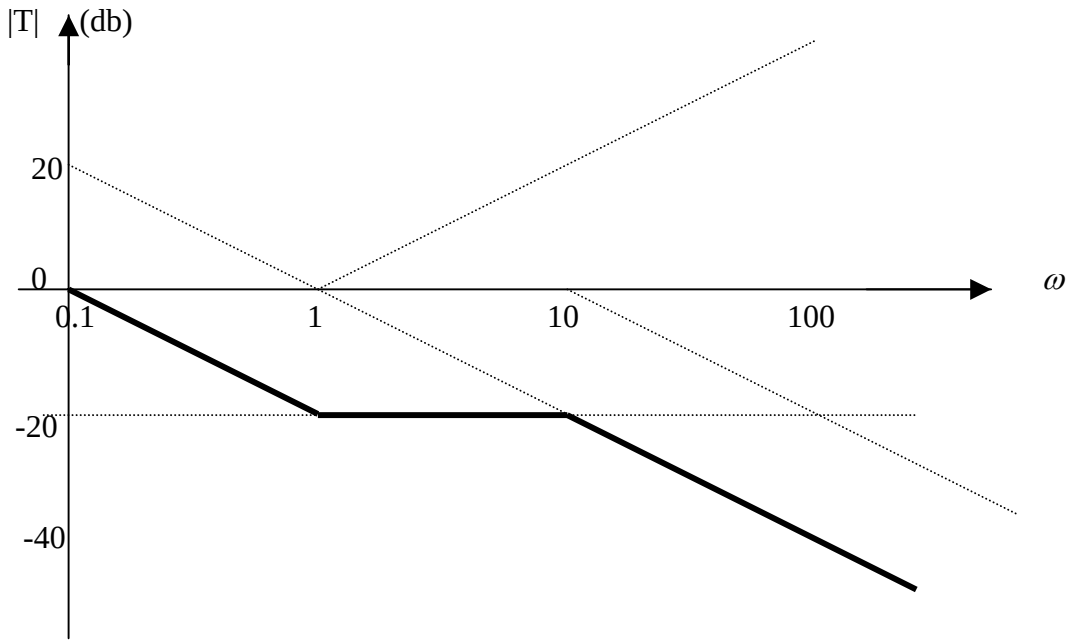

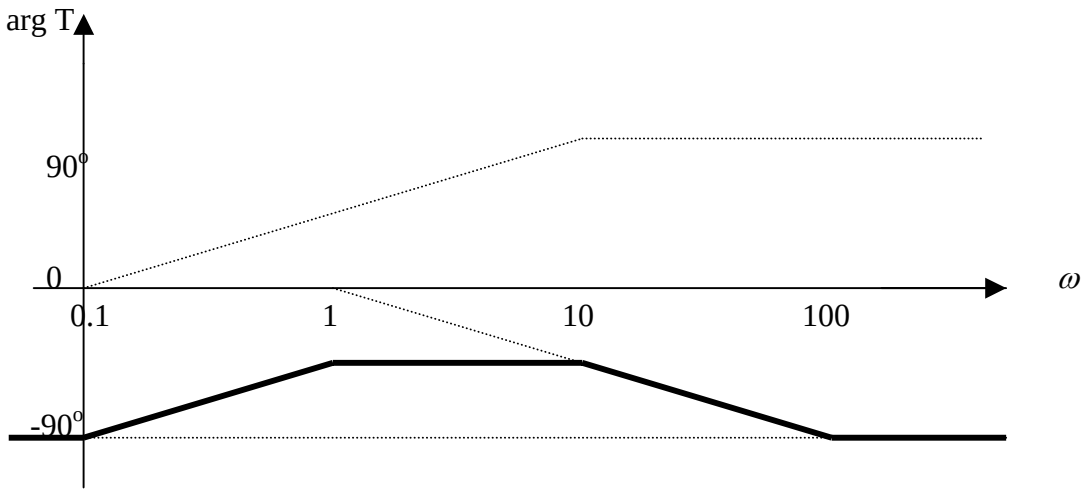

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